

ABSTRACT

A substrate support useful for a plasma processing apparatus includes a metallic heat transfer member and an overlying electrostatic chuck having a substrate support surface. The heat transfer member includes one or more passage through which a liquid is circulated to heat and/or cool the heat transfer member. The heat transfer member has a low thermal mass and can be rapidly heated and/or cooled to a desired temperature by the liquid, so as to rapidly change the substrate temperature during plasma processing.